

Jetstream 31 (J31) Flight Report for INTEX-B/MILAGRO
Flight VER14 flown 20 Mar 2006

A complete version of this report is posted at
<http://www.espo.nasa.gov/intex-b/flightplanningJ31.cgi>

Overview

This was the J31's final science flight from Veracruz. Preflight goals focused on finding a hole in cirrus and to fly the RSP glint pattern (to prove the theory intended to apply to Glory data to derive aerosol absorption from Glory--based on deriving scattering properties against dark background & extinction against glint).

See planned and actual flight tracks in Figures 1 and 2.

Engine on: 1714 UT

Engine off: 1938 UT

Takeoff: 1733 UT

Land: 1934 UT

1856 UT Aqua overpass

1912 UT Aura overpass

Cabin crew: Livingston, Remer (flight scientist), Schmidt, Waquet, Wind

Pilot Summary

A/C worked well. Most extensive Ci ever.

Discussion of flight

Flight Scientist: Did not find hole in Ci. On takeoff from VER, got AATS water vapor data to compare to VER sonde. Returned ahead of scheduled landing time to minimize use of flight hours.

Instrument Performance & Status

AATS: Started fine. Took data from before takeoff til ~1755. Lost tracking under Ci; in search mode seemed to lose direction. Regained tracking after rebooting. Same sequence after losing tracking under Ci 2 more times.

CAR: Tried to power on before flight; both door & mirror motors sounded like they were moving, but appeared to lose power after a couple of seconds. Closed door manually for flight. Tried to power on in mid-flight, but didn't succeed.

RSP: Everything OK with acquisition. Detector cooling OK. Can't interpret data because of too many high clouds.

SSFR: Worked OK, but no useful data today because of Ci all over.

POS: Perfect.

NavMet: Fine.

Flight Path, Timing, and Measurements (all times UT [VER local +6])

POS and all other instruments (except CAR) started normally.

1751 AATS taking Ci-free sun data. AOD(520)=0.11.

1751 RH decreased from 40% to 15% at ZGPS=850 m

1752 Z=1150 m, AOD(520)=0.05.

1751 AATS in search mode under thick Ci but not moving

1751 AATS rebooted successfully (File AB).

Transit at 5.36 km ZGPS (5.12 km Zp).

1 AATS went into search mode, but had to shut down again.

1751 Turned to W at 21 deg 43' N toward an apparent clear area. No hole.

1819 to 1823: AATS successfully rebooted under Ci. AOD(520 nm, aerosol+Ci)=0.18 to 0.22

1751 After one more AATS reboot, successfully shut down AATS.

Heading to VER

1934 Land.



Figure 1. Planned flight track, J31 Flight VER14, 20 March 2006.

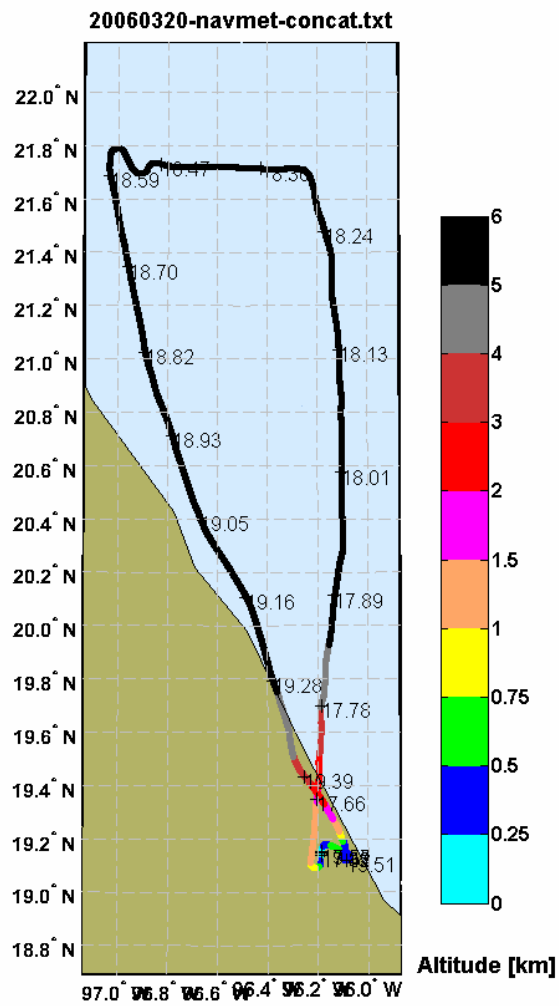


Figure 2. Actual flight track, J31 Flight VER14, flown 20 March 2006.

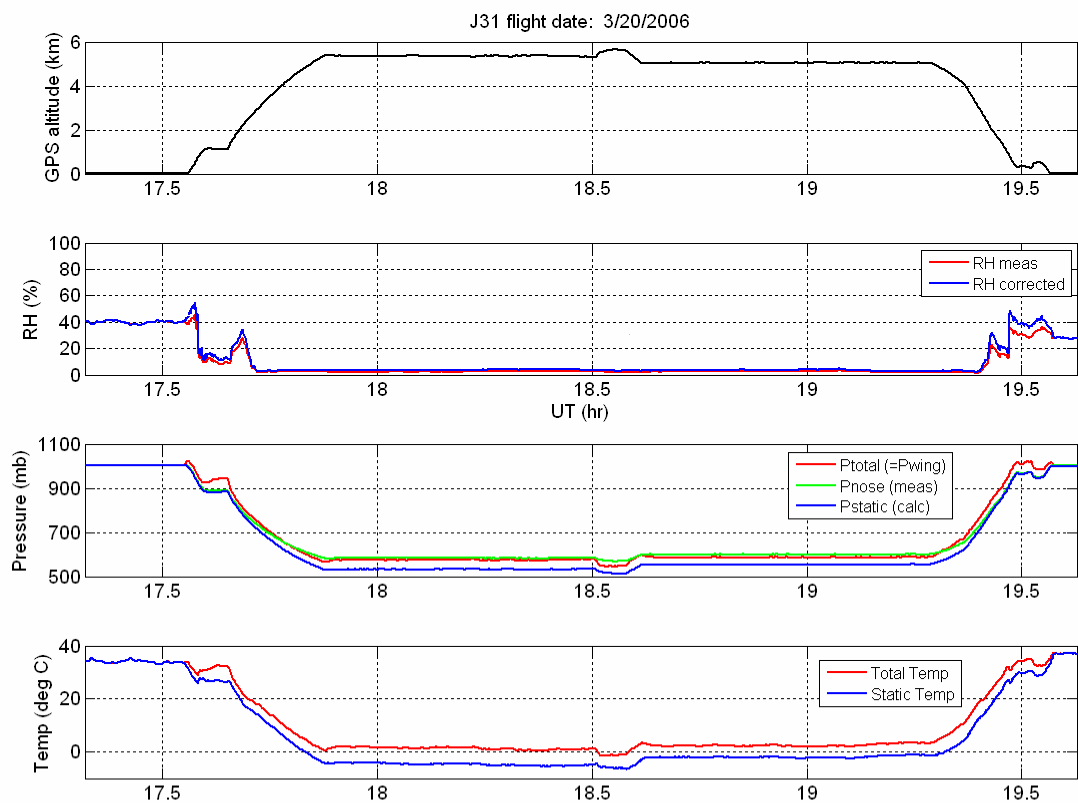


Figure 3. NavMet data, J31 Flight VER14, 20 March 2006.